CHICAGO
USERS GROUP

PRESENTS

CHICAGO TIMES

NEWSLETTER OF THE CHICAGO TI-99/4A USERS GROUP

TEXINCIA QUITS! STORY ON PAGE 21

MARCH 31/APRIL 1, 1986
EDITOR: Carole Goldstein

THE APRIL MEETING

will be held on Saturday April 5, 1986 from 1:00 to 3:00 in the Fireside Lounge at Triton College. The meeting will feature demos of various terminal software and of the Users Group BBS.

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BULLETINS:

The PASCAL SIG will meet at 11:00 the day of the meeting.

The BUSINESS SIG will meet after the regular meeting.

Due to the success of the WHAT DO I DO NOW? SIG, they will meet immediately following the meeting. Bring any questions, software, etc. that you need answers for and we will try to help you. The SIG will be concentrating but not limiting itself to discussion of beginning with TI Writer.

MEETING DATES FOR THIS COMING YEAR ARE AS FOLLOWS:

APRIL 5	OCT 4
MAY 7	NOV 1 (TI FAIRE)
JUNE 7	DEC 6
SEPT 5	

THE DISASSEMBLY: Dave Wakely

I guess I decided to gamble. During last month's very thorough presentation on the Gram Kracker by Jack Topham, he reminded me of some of the console cleaning chores I had neglected. Specifically, he noted that it often, if not usually, is the LOWER end of the cartridge port connector which needs the cleaning. It can be reached by removing the console cover and pulling out the L-shaped connector from its socket. As suggested, it was filthy. I haven't seen such dirt since I hosed down the wheel wells on my '79 Monte Carlo. As a result, my "49-99" keyboard never made it to the TI Exchange Center, but it has also been working just fine since the cleaning. Thanks, Jack.

In addition to Jack's presentation, the March meeting itself moved along with our usual smooth precision. Well, almost. In the "That's-funny,-it-was working-at-home" department, our condolences to Burke Crane, whose printer refused to handshake with the hardware on hand. Wakely's Law of Digital Dynamics states: "Any piece of hardware or software will work absolutely flawlessly until precisely that moment when the failure to do so will result in the maximum embarrassment for it's owner/operator." (With apologies to Murphy). We also thank Mike Shube for bringing his color video camera so that everyone could see the color in Burke's face. Most of those in attendance were quite willing to engage in Wakely's Digital Dodge #1: "When all else fails, blame the disk controller!" While showing the latest library acquisitions, John Behnke also received a dose of this syndrome when attempting to run a music program. Incidentally, that axiom was coined some time ago when I was once attempting to show off a particularly impressive piece of TI graphics to a Commodore 64 owner. I believe he is still laughing.

FAIR ENOUGH: We have only begun to explore the depths of the "Post-TI phenomenon." For example, from observations of recent trends, I predict that some day every TI owner will have a bulletin board system, and there will not be enough time to attend every TI-related function:

1st TI user: So, let's get together soon and trade some TI software.

2nd TI user: Fine, let's set something up. Have your TI bulletin board system call my TI bulletin board system.

1st TI user: Ok, but perhaps I'll be seeing you at the Fair?

2nd TI user: What, another one?

1st TI user: You mean you WON'T be going to the Lower Des Plaines Valley 2nd Annual TI Fair and Bake-off on the 23rd?

2nd TI user: The 23rd? You must be kidding! That weekend I'll be at either the 3rd Annual Kettle Moraine TI Turkey Shoot and Cartridge Dumping Contest, or at the 1st Annual Sheboygan TI Hacker's Conferenc and Demolition Derby.

Of course, what no one has been able to figure out about this is how Roy Hunter will probably manage to be at ALL of these functions. Actually, we hope Roy is fully recovered from his oral surgery of a few months ago, which had the unfortunate effect of somewhat diminishing his communication ability. For example, at the February meeting, just after his surgery, I asked him how much he wanted for "The Orphan Chronicles", and he said "Mffta Nffhta Nahhaa." I think this meant $9.00, but for all I could make out he may have been trying to tell me that my fly was unzipped. Anyway, word has it that Hunter Electronics will be back with us at the April meeting, where presumably Roy will be his usual understandable self.

FAIR, GOOD: There actually WAS a TI Fair in Los Angeles last month, and it appears the

L.A. TI Users Group did a fine job of it. Various announcements of new products were made and some old rumors were rehashed/updated. What follows was downloaded from The Source from material contributed by Rita Glickman, who frequents the TI PARTI conferences there, and from Randy Ainsworth, who publishes Randy's Rumor Rag on Texnet:

Myarc: Lou Phillips didn't show the new computer working, but appears to have shown the same case he showed us. He stated a working "prototype" will be shown at the New Jersey Fair on 3/15 (two days after this is being written). He did bring and show a working Extended BASIC II, although Glickman referred to it as XB Level 4, Version 2, which is the version being shipped now. Version 2.1 is under development and will be released soon, but Phillips stated that the new computer will run Version 3.0. No word on what the differences are. The new computer will also be shown here in Chicago at the Consumer Electronics Show in June, but you will NOT be able to buy one then. You MIGHT be able to purchase one by Dec. 15, but word has it not to expect anything until this time next year.

Phillips approached TI about names for his computer, and was told he could call it anything as long as it wasn't called something with "99" in it. In addition to what you already know about the new computer from Phillip's presentation at our Faire in November, the new machine can use either a composite monitor or RGB, but not a TV. On power up you will not see BASIC on the menu, instead it will search the drives. But it will have an internal BASIC and a GPL interpreter in ROM. Myarc is placing a high priority on a C compiler, and this seemingly has a higher priority than IBM PC compatibility at present, although Phillips stated that the operating system (OS) is being written by Microsoft and will be quite similar to MS-DOS. They are also doing some work on some GEM operating system features, and Phillips claims the machine will run as fast as the Amiga (perhaps this also means he sees the Amiga as his chief competition?). Myarc claims they still expect the base price for the machine to be under $500.

Back to XB II, Phillips explained that their 128K (or 512K) card is required because they in essence redesigned the architecture of the machine. In order to get the language into CPU, on power up you must have the language disk in the drive or in a battery-backed RAM disk which has been previously loaded with it. When asked whether XB II would load into Gram Kracker, Phillips stated, "I'd say so. I don't know why not. Let me say that Craig and I have a good relationship and most everything he does is compatible..." Phillips also stated that there are a number of programmers already working on software for XB II, including Quality 99 and Chris Faherty (TI ARTIST). Retail price for a Myarc 128K card and XB II is $299.00, $89.95 if you already have their card. There will be a version available for those with the Foundation 128K card for $99.95. As an aside, Myarc is offering an EPROM for $50 (for their disk controller card) that will let you address quad density drives. The chip was developed by Paul Charleton. No word on exactly when this will be available.

Millers Graphics: Craig Miller announced at the Fair that MG would be producing a PE Box interface card which would allow you to use ANY IBM compatible keyboard with the TI. The keyboard will be fully tranparent to ALL TI software and will allow you to have programmable function keys, separate cursor keys, and to use the IBM keyboard numeric keypad. There will be two phases to this hardware:

Phase 1 is the interface card in a clam shell for the PE Box which contains a Z80 processor and other chips to translate the data from the keyboard to a format acceptable to the TI, as well as a four keystroke memory. This card will give you "a full usable IBM keyboard 100% transparent to all the software that is out there". Phase 1 product availability is 10-12 weeks.

Phase 2 consists of plug-in chips which will provide a 32K keyboard buffer and will allow the user to redefine all the function keys as well as provide for the use of macros and batch files (for the non MS-DOS initiated, this means you can have one key (macro) or one

command (batch file) carry out the work of several keys (or commands). The memory resides in the card, not in the computer, and is battery-backed. This also means you can retain the programming for several different modules at once, "So you can have it all on line all the time." Any keyboard configuration can also be saved to disk. From the card itself is a flex cable which attaches to the 99/4A. The IBM style keyboard then plugs into the back of Miller's card. While use of the card will deactivate the 99/4A keyboard, there will be a switch on the card to deactivate it so that the /4A keyboard can once again be used. Of course, before we forget, the console itself is still required not only because it contains the main board of the computer, but also for module and joystick use (but check out the next paragraph). Availability of Phase 2 is expected about two months after the completion of Phase 1. Miller stated that the estimated cost of the card will be "under $200.", but that is as specific as he could get. This does NOT include an IBM style keyboard (which are available from 3rd party sources for $60-$150).

Miller stated that he is seriously considering bringing out an extension cable so that you could move the /4A console out of the way and just have an IBM keyboard and the Gram Kracker sitting there, but some buffering problems must be cleared up first. He also hinted that there would be something down the road which will let you get rid of the /4A console entirely. This sounds as though MG may be planning a way to take the main board (or its compenents) out of the 99/4A and put it on a card in the PE Box. This sounds like both a great idea and a reminder that there are excellent system enhancements possible even if the new computer never comes out. In fact, with a configuration featuring a Gram Kracker, IBM-style keyboard, XB II, 512K RAM, quad density drives, and no console, perhaps this IS the new computer!

CorComp: A CorComp distributor was showing 99 Home Sentry, a product which will run your appliances and lights from the 99/4A. The unit at the L.A. Fair was a prototype, with finished units available some time in April. The Home Sentry consists of a module, an appliance timer manufactured by X-10 Powerhouse Systems, and individual appliance units which plug into the wall outlets in your home. It is interfaced to the /4A by a cable at the joystick port. (Sounds like an adaptation of the X-10 units which have been sold by Radio Shack and others for some time). Price range will be approximately $70 for the module and master X-10 unit, and $10-$15 for each appliance module needed. If you had an existing controller set up from Radio Shack, for example, would the appliance units work with the 99 Home Sentry? I don't know. Ask CorComp.

The master unit is battery backed and the computer is used to control the timer at initial start up or to change settings for appliances. (Does this mean what it sounds like -- that once programmed the unit can be disconnected from the 99/4A and then run alone, to be reconnected only when you want to change the schedule? I don't know. Ask CorComp.) The system will control up to 9 appliances in a run and up to a total of 14 rooms. The programming is menu-driven with graphic displays of each room. The use of icons is consistent throughout the programming. The unit allows for setting start or stop times for the current day or for several days in the future. Minimum system configuration for this product is a computer console only (a good use for that extra console sitting in the closet?). The CorComp distributor indicated that the March issue of Compute! magazine contains a review of the same product for the Atari.

Others at the Fair: Ainsworth reported that he wasn't very impressed with either the MAXIMEM or the new Extended BASIC from the German company Mechatronic GmBH (catchy name, no?), although he did feel that the GRAM-KARTE is the best of their products. This is similar to Gram Kracker, but is a 128K card (expandable to 512K) which fits into the PE Box (Note: If I had bought everything in this column which goes into the PE Box, I believe it might be about full by now.) This card will put downloaded cartridges into memory, and you can have 8 different modules on a menu at the same time. Ainsworth feels that the GRAM-KARTE may be more technically complicated than the Gram Kracker when it comes to saving and loading cartridges. Also, the memory editor is reportedly a bit more

complicated to work with. You can have two of these cards in the box for a total of 1 megabyte of RAM available. Also, all the software is on the card, and you can even change its CRU base via DIP switches. A full review of GRAM-KARTE was in the January MICROpendium. At that time they also announced March availability of a true 80-column card, but there was no word on this at the Fair that I could find. They are also planning the following for future release: multimodule "remote" cartridge expander; DOS80 disk manager for 80 track drives; convert TI BASIC <> MBASIC conversion program on module; library card for unlimited menu access to multiple module library; GPL memory module (16K-64K RAM) for GPL programs; a new expansion unit with 5 slots and built-in DSDD drives. Those German engineers sure keep busy!

Also shown, and already available, is a GPL interpreter to access TI's (formerly) "secret" language. Use of the interpreter will not only allow dumping of GPL cartridges, but they will run 10-20% faster than they do in cartridge form. I forget who is distributing this, but no doubt you will be seeing ads for it.

There were other products mentioned, most already on the market, and too numerous to mention here since my fingers are getting tired. Texaments, Asgard, and Super 99 Monthly were all in attendance. By consensus, the best new freeware program is PRBase by William Warren. It is written entirely in assembly. If you don't feel there is a database program for the TI equivalent in quality to products like TI Writer or Multiplan, I hear this is the database you want.

The L.A. Group conducted the Fair as a part of the annual L.A. Computer Sale-A-Thon, taking up a mezzanine section. According to Rita G., attendance on Saturday, March 1 was about 250 (maybe this was a misprint?), and the Fair also continued on Sunday. I will leave the topic of the L.A. Fair with this direct quote and warning from Randy Ainsworth: "...if you have a Triple-Tech card and do not use the clock feature, I would suggest that you remove the battery NOW. There have been reports of the batteries blowing up, since the circuitry in the card charges the lithium battery when the computer is on. This seems like a major design flaw since everyone knows you can't recharge lithium batteries."

SUBROUTINES: Our group auction is coming up in a few months. If you have hardware or original package software to give to the group, we would appreciate your donations. All proceeds from the auction will go into the group treasury. You Gram Kracker cartridge dumpers out there might want to consider that you will no longer have need for those modules, but others may...Is anyone else wondering what ever happened to the money you spent on MINI-MAG 99? Perhaps one of those letters like the one to THAT magazine which appeared in these pages not long ago is called for...speaking (indirectly) about THAT magazine (you know which one), word now has it that it is undergoing its yearly crisis/catharsis/purging, and will re-emerge 5 times per year, but with software disks bound in (at least this is what my sources tell me)...it occurs to me that this newsletter will appear around April 1. As far as I know, everything in this column is factual, with no seasonal "jokes" thrown in. Knowing Carole, however, I would look closely at the rest of this newsletter for some funny business...This is it. You now have no more time to get your programs into the programming contest. Some people out there are going to win money at this (up to $300 WILL be awarded), so get your programs done NOW! The next meeting is the "drop dead" date, or wait until next year!!

ENTER THE PROGRAMMING CONTEST

MEMBERSHIP CHAIRMAN SPEAKS: Don Jones

Well, here I am again. I want to start out by saying that I was fairly surprised at the number of members who showed up for the first meeting of the, "...and what do I do next?" S.I.G. I was very pleased to see that there were so many new members, but I was also surprised and happy to see some members who have been around for a while. In any case, I felt that the whole affair was an unqualified success. It really made me feel great to see people leaving the meeting with smiles of satisfaction and accomplishment on their faces instead of frowns of perplexity and confusion. I feel that we truly serviced the needs of many of our members, at the last meeting.

Here I want to thank Hank Ellermann and Carole Goldstein for being present and for their help in answering questions that I did not feel entirely comfortable with. At this time, I am requesting their presence at all future meetings of this S.I.G. I do this because of the extensiveness of their knowledge, experience, and expertise. As I look back on the last meeting, it is clear to me that I could not have done without them. Hank and Carole: See you at the next meeting of the S.I.G! I also want to thank our brother from Kankakee who not only was present and answering questions but who allowed us to use use his system for the purpose of demonstration. Unfortunately, I don't know his name.

The first meeting of the above mentioned S.I.G. was, in itself, very enlightening for a number of reasons. One of the reasons was that I was surprised to find how many people are having difficulties with logging onto a bulletin board. Relative to that problem, our president and SYSOP will be dealing with this particular problem at the next meeting as he will be devoting a large portion of the next meeting to various aspects of telecommunications. Because of our newly awakened awareness of the needs of our newer members/users, I have already requested that he devote some time to how to use the T.E.-II module. This meeting will have something for EVERYBODY! It will therefore be of great benefit for all new or beginning level users/members to be present at the next meeting.

For those of you who find that the idea of the above mentioned S.I.G. (Special Interest Group) is of potential interest and/or benefit to you, there are a few things that you should keep in mind and endeavor to do: The first thing that you must do is to be present, whenever possible, at all of the meetings of the group and our special S.I.G. If you aren't present, there is no way for you to benefit. If you are bored out of you socks by the proceedings of the general meeting, you will have to accept this as the sacrifice which is necessary for you to get to that part of the meeting that is of interest to you. I might add, to take away some of the pain, you may want to remember that by being present you have a chance to win one of our wonderful door prizes. Only those members who are both present and signed in will have the opportunity to win. If you don't come and SIGN IN, you won't have any chance to win. (Those members who don't get their tickets at the time that they sign in will not be given the chance to get one later.)

The second thing that you must do is: ASK THE QUESTIONS THAT YOU WANT AND NEED TO HAVE ANSWERED! You cannot depend on someone else to ask the questions that you need to have answered. You must be willing to ask any question(s) regardless of how elementary or insignificant you may feel your concern to be. If you are too timid to raise your hand and submit your questions, you are assured of leaving the meeting frustrated. I might also add, though you feel your question is somewhat dumb or foolish, the answer that is given will probably help others who did not remember to submit the question or who were also afraid to bring the question forward. In our special S.I.G., no sincere question will be considered as being unworthy of an answer or consideration. In order that you may present your question in the most favorable light, it may help for you to formulate it before the meeting and write it down or type it out. I will be happy to accept questions from those members who wish to remain annonymous. You may either give them to me before the meeting of the S.I.G., you may send them to our post office

box number, or you may leave me a private message on our bulletin board.

As a result of my observations at the first meeting of our S.I.G., I would also suggest that you do a third thing, whenever possible: If you have a module, a piece of software, or a piece of hardware that is giving you difficulty, bring it with you. If you have it at the meeting, with the related instruction manuals, we may be able to be of greater help. At the last meeting, one member did not know how to set the switches on his acoustic modem. Fortunately, another member had just purchased one that was similar to the modem that the first man owned but had at home. I gave the modem and its instructions to Hank Ellermann. In less than five minutes, Hank had an answer to the member's questions. To be on the safe side, I will have my T.E.-II and Disk Manager II modules at the next meeting. I will also have the software for T.I. Writer.

Believe it, or not, there are both publications and manufactureres that have remained both constant and loyal to TI owners and users. I therefore submit that we have a responsibility to support, with our purchases, these admirable enterprises as they have committed themselves to our support. We must also remember that if they should die, our machine will be truly dead! Our support of our friends and supporters is therefore, from the standpoint of mere self-survival, an intelligent and worthy undertaking.

There is a publication which I would like to recommend to all members of our group: Micropendium Magazine. Our group has placed a full page add in the March issue, in our on-going attempts to get more members. Micropendium probably has the distinction of being the most important publication that, presently exists, that is entirely devoted to TI-99/4A computer. It has articles which review both hardware and software for our machine. This magazine should be considered as required reading for all owers/users of the TI computer. It is probably the best means of keeping up on new products and developments for our machine. Here, I must admit that Micropendium would be difficult, if not impossible, reading for a beginning user/owner. Still, I recommend that all users/owners subscribe to the magazine. I say this because, when I started to get involved with the TI computer, I purchased a subscription to a now defunct magazine called 99 Home Computer Magazine. Though there were articles that I could understand, in those early issues, there were a large number of articles that had no meaning or application to what I was doing. After I later purchased my P-box and drives, LOGO, editor/assembler, mini-memory, P-code card, Multiplan, and TI Writer, I found myself returning to those early issues to enter programs and read articles which earlier were of no value to me. I believe that beginning subscribers of Micropendium Magazine will experience the same thing

In addition to Micropendium Magazine, there is Miller's Graphics, but regarding this publication, be forewarned: It is written for and intended for only those who have a truly intimate knowledge of the TI computer. I find it to be too advanced for me. People who are into actively creating programs for the TI will find this publication both interesting and helpful while it will only confuse the average user.

Well, sports fans, I guess that this is it for this month. Those members who have volunteered to distribute letters and membership information guides to users/owners within their own zip code areas, at their own expense, will receive their materials at the April meeting. The weather should be nice by that time and you may enjoy the idea of getting out to walk, bike, or drive around your neighborhood. It will be interesting to discover those houses that contain TI machines. Anyone else who wishes to sign up for this [illegible] will find the volunteer sign-up list at the sign-in table at the next meeting. See you [illegible]

LETTERS TO THE EDITOR

The following two letters were received over the UGBBS. The first was from one of our members and the latter was from Davenprot Iowa.

I HAVE BEEN A MEMBER OF THIS USER GROUP FOR FOUR MONTHS, SINCE MY FIRST VISIT AT THE DECEMBER MEETING. I JOINED ON THE FIRST VISIT BECAUSE I SAW SOMETHING , SOMETHING THAT MADE ME REALIZE HOW LITTLE BENEFIT I HAD REAPED FROM MY SYSTEM TO DATE. I LEARNED HOW TO WRITE REAL PROGRAMS, BUT THAT WAS ALL. SUDDENLY I WAS SURROUNDED BY PEOPLE WHO HAD THE SAME SYSTEM I HAD , BUT THEY HAD POOLED THEIR RESOURCES, TO INSURE THEIR SURVIVAL. BEAUTIFUL CONCEPT.

SINCE THAT FIRST MEETING I HAVE BEEN WATCHING THE GOINGS ON ,AND HEARING AND READING THE COMMENTS THAT WERE EITHER VERBALIZED OR WRITTEN IN THE CHICAGO TIMES, I HAVE COME TO ONE CONCLUSION, MANY MEMBERS HAVE FORGOTTEN WHAT IT WAS LIKE BEFORE THEY JOINED THE USER GROUP.

YOU CAN NOW GO TO A MEETING ONCE A MONTH AND FIND ALMOST ANYTHING THAT YOU COULD WANT FOR YOUR SYSTEM, OR FIND WHAT YOU NEED TO MAKE YOUR STANDALONE CONSOLE INTO A SYSTEM. YOU HAVE A PLACE TO HAVE YOUR QUESTIONS ANSWERED, OR OBTAIN OTHER HELP. SO WHY COMPLAIN ABOUT A COLUMN CALLED RAM BUGS? WHY COMPLAIN ABOUT SOME OF THE OTHER SUBJECT MATTER IN THE CHICAGO TIMES? WHY COMPLAIN IF A PERSON WHO PUTS HIS HEART AND TIME INTO A PROGRAMS DEVELOPEMENT ,GETS FRUSTRATED WHEN HE SHARES IT WITH OTHERS WITH ONLY A REQUEST FOR SOME SMALL MONETARY RENUMERATION IF SOMEONE USES HIS PROGRAM? BE GRATEFUL THAT WE HAVE A CENTRAL FOCAL POINT FOR OBTAINING VIRTUALLY ALL OUR NEEDS. IF YOU WANT SOMETHING ELSE IN THE CHICAGO TIMES , WRITE IT AND SUBMIT IT,OR ASK SOMEONE WITH THE EXPERTISE IN THAT AREA TO WRITE IT. I DON'T THINK THAT CAROLE WOULD COMPLAIN. WE COULD ALL HAVE A BIGGER AND BETTER CHICAGO TIMES. WHEN IT COMES TO *FREEWARE* LETS NOT DISCOURAGE THE PEOPLE WHO ARE PROVIDING IT , WE ARE ALREADY ORPHANS WITH NO MAJOR MANUFACTURER SUPPORTING US. WITHOUT THE FREEWARE THAT IS AVAILABLE WE WOULD BE MISSING SOME VERY VALUABLE SOFTWARE THAT THE AUTHORS COULD EASILY KEEP TO'THEMSELVES OR JUST SHARE WITH THEIR CLOSE FRIENDS.

MY BOTTOM LINE MESSAGE IS THAT WE DON'T WANT TO MESS UP THE BEST THING GOING IN THE TI WORLD BECAUSE OF A LITTLE SELFISHNESS OR A LACK OF CONSIDERATION FOR OTHERS . LETS ALL PITCH IN AND MAKE IT EVEN BETTER FOR ALL!!!

THANKS FOR READING THIS IF YOU DID, AND IF YOU DIDN'T I HOPE THAT YOU DON'T FIND OUT THE HARD WAY HOW MUCH WE CURRENTLY HAVE GOING FOR US.

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HERE IS A SYNOPSIS OF A CONVERSATION WITH MR. SHADER OF THE TOM'S RIVER BBS(201-929-8161) IN CONNECTION WITH THEIR T.I.C.O.F.F. (NEW JERSEY FAIRE)

WELL - DID MYARC RELEASE THEIR NEW COMPUTER?
NO-BUT THEY DID SHOW THE BOARD THAT WOULD FIT IN THE PE BOX, NO MODULES, A "TIAWAN" KEYBOARD. ALL NON-FUNCTIONAL. NO ONE KNEW UNTIL THE VERY LAST MINUTE THAT THEY WERE NOT GOING TO SHOW THE NEW SYSTEM OPERATING.
SOUNDS LIKE THE SAME THING MYARC DID IN THE CHICAGO FAIRE.
SOME THINGS THAT WERE DEMOED WAS A "GRAM-CRACKER-LIKE-DEVICE" FROM AN OUTFIT CALLED "PILGRIMS PRIDE." IT RAN WELL AND WILL COST MUCH LESS THAT GRAM-CRACKER. 70 BUCKS. RYTE DATA HAD A SIMILAR ITEM BUT WERE NOT DEMOING THAT.
WAS THE TURNOUT GOOD?
YES, ABOUT 800 SHOWED UP, BUT THE RAIN BEFORE DAMPENED THE LOCAL TURNOUT. BUT THEY CAME IN FROM ALL OVER THE PLACE -WASHINGTON, AND CANADA, MASSACHUSETTS AND MAINE, PLUS THE "ARTISTS" SHOWED UP-THE PEOPLE THAT YOU HEAR ABOUT BUT NEVER MEET.
BUT NO MYARC.
MR. PHILLIPS HAD PROMISED THE PEOPLE WHO ARRANGED THIS FAIRE THAT HE WOULD DEMO THE MACHINE. HE SHOWED UP, HAD ALL HIS EQUIPMENT THERE, AND ALL HIS PEOPLE THERE --HE DID A GOOD BIT WITH THE "EXTENDED BASIC II" AND HE IS ALREADY INTO HIS SECOND VERSION SOOO-WHO KNOW IF THERE ARE BUGS IN THE THING.

IF YOU WOULD LIKE TO JOIN THEIR BBS SEND 10 DOLLARS TO:
JEANETTE SHADER
1098 EAGLEHURST RD.
TOM'S RIVER, NEW JERSEY
08753

BASICALLY YOURS: Rich Klein

OOPS! I must apologise for my last column. I was playing around with the upload feature on the bulletin board and selected X-on X-off transfer to upload my column. If you're uploading anything to the newsletter, DO NOT use X-on X-off! You will drive Carole to an early grave. I may have helped in that area. If it were not for Carole's diligent efforts, my column would have been one long sentence (perhaps one long word). Any errors noted were only a small percentage of the total created by sending with that method.

I was unable to attend the February 1st meeting, but was informed by Carole afterwards that a question was asked about whether or not variables could be used in a DIM() statement. Unfortunately, the answer is no. It would be nice if you could, because then you could prompt the user to indicate the maximum size of the file (array) and then DIMension only that amount. A DIMension statement allocates memory for an array and cuts into the available memory. If we could control the size of our arrays, then the extra memory could be used for other purposes. I think the only computer that could use variables in a DIM() statement was the old line of ATARI computers (400,600,800). Whether the new line of ATARI or any other computer supports this type of variable usage, I couldn't say. All that's really important is that the TI will not support a DIM() statement with anything other than absolute numbers to indicate its size.

At the January meeting, I was asked about how PRINT...USING can be implemented on a printer. At the meeting, I looked through an Extended Basic book to see how to use it with files. Unfortunately, the book wasn't clear on the statements limitations. I was informed by my interrogator that he could only get one item at a time to print with this statement. Every time he tried to put more than one item in a PRINT...USING statement, he would get a syntax error. I told him that I would see what I could come up with in the way of an answer.

Well, after many of my own syntax errors, I have an answer. A PRINT...USING statement can't be treated like any other PRINT statement. Since you are USING sme form of an IMAGE to format the PRINTed result, the statement does NOT allow the use of semicolons, colons or commas as delimiters in the print list. This is because, since the statement formats the output, then anything else would mess up that format. This means that some fancy footwork must be done in order to use PRINT...USING with a printer.

The statement will allow the use of a comma, but only to seperate the PRINT items. It does not cause the next item to print in the next field as we would normally expect with a regular PRINT statement. The PRINT...USING statement will allow one exception to the delimiter rule. You can place a semicolon, colon or a comma at the VERY END of the print list. Since this is at the end of the statement, then any delimiter will act on the *next* PRINT statement and won't affect the PRINT...USING statement's own formatting. Let's see how we can use this information to our advantage.

```
100 OPEN #1:"PIO"
110 X=0 120 IMAGE $#######.##
130 IMAGE "$#####.## ###.## @#######.##"
140 PRINT #1,USING 110:1000,210.444,999888.456
150 PRINT #1,USING 120:1000,210,444,999888.456;
160 X=X+1
170 IF X=3 THEN CLOSE #1::END ELSE 140
```

If you examine the listing above, you can see two different IMAGE statements. This is to illustrate different ways you can utilize the PRINT...USING statement. If you bothered to key in the listing and RUN it, you will see that the first PRINT #1,USING places the three numbers on three different lines. The second places the same three values on the same line in the format specified by the IMAGE statement on line 130. As you may have noticed, you can specify more than one value for any given IMAGE format. If one or more

of the values doesn't fit into an IMAGE format, then the IMAGE format is repeated on the next line. This is why the first three numbers are placed on consecutive lines.

By enclosing an IMAGE statement in quotes, spaces can be included to allow multiple values to be placed in one format. This allows us to format consecutive values in different ways on the same line. If you looked at the output generated, you will have noticed that the sequence of value is repeated three times. This was done to show how the PRINT seperator used at the end of The PRINT...USING statement in Line 150 (semicolon) is used to place the next value encountered after that line adjacent to it rather than on the next line. The end of the PRINT...USING statement is the *only* place that you can place a print seperator.*News Flash..* I just tried this listing and found that the only seperator allowed at all is the semicolon, and still only at the end of the line. TAB functions won't work either.

To summarize, if you use an IMAGE statement to supply only one format, then each item in the *print list* will be PRINTed in a column USING the format specified. If you place a semicolon after the end of the statement, then the next item will be PRINTed next to it. This can be used to place items on one row. If you specify a multiple format in your IMAGE statement, then they will be PRINTed on the same line USING the multiple format specified. One drawback to this method is that the *print list* must contain at least the number of values as the number of formats in your IMAGE statement.

PRINT...USING is still a very powerful statement despite its apparent limitations. These limitations also apply to any device used, including the screen. When using the screen as an output device, you also have available the DISPLAY AT() statement to use along with PRINT...USING to create an unbeatable combination for screen control. DISPLAY AT() is not available for any other device.

That about wraps things up for this month. I forgot to mention that you can only use the above in Extended Basic. If you need help with anything, that's the purpose of this column. Bye for now...

FULL DUPLEX: Irwin Goldstein

As promised (repeatedly) in a previous issue of this newsletter, the club's Bulletin Board has been upgraded. Some of the new features will be explained now and all of the boards features will be demonstrated at the next meeting on April 5th.

The first improvement is noticed when first logging onto the system. We now show the last 10 callers who used the system. This feature is one that has proved to be very popular in past versions of our BBS. The most recent caller will appear at the top of the list and eventually will work its way down to the bottom. Along with the caller is displayed his member number and the time at which he called in.

The second obvious improvement to the system is found in the download section. By popular request, a new category has been added to the download operating menu. That addition is an (N) function. The (N) function, when entered, will tell the BBS user the most recent downloads entered into the download section. This feature saves valuable time for the user in that he doesn't need to view the entire listing of programs to determine if any new ones have been recently entered.

All the new additions to the Board will be demonstrated at our meeting. It is hoped that any questions reguarding the use of the Board will be asked at that time. As usual, passwords will be given out at the meeting. If you are unable to attend our meeting, you

may request a password by sending your dollar to Chicago TI Users Group, P.O. Box 578341, Chicago, Il 60657

By the way, video cassettes are still available of both the 84 and 85 TI FAIRES.

Well, that's it for this month. See you at the meeting. Don't forget to call us at (312) 966-2342 seven days a week, 24 hours a day at 300 or 1200 baud. We don't ever say goodnight.

SOFTWARE REVIEWS: Jack Topham

I have so many super products this month I really don't know where to start.

Our own Todd Kaplan has scored a direct hit with "DISK MASTER". Not just another Disk Manager but one that combines traditional Disk Management with a Sector Editor, a File Reader, and a File Loader. This fantastic program came to me without Docs but is so user friendly that with a few notes from Todd, I was off and running. Yes... It is Myark compatable!

The program can be run from XB with auto load, E-A opt 3 or opt 5. Just press enter in OPT 5 since the file is named "UTIL1". So all bets are covered. All screens can be dumped to a printer as well as the DISK INDEX. The DISK INDEX on screen has a COMMAND Col. at the left of the list of file names. You enter C(opy), D(elete), M(ove), P(rotect), etc. PROCEED executes the commands in a fixed, logical sequence. The L(ist)/L(oad) command is unique. If the file is D/V80 it will be output to the printer. If the file is D/F80 or Program Image it is loaded and run accordingly. There is provision for inputting the program name if required.

DISK MASTER tells you where each file is located and will T(hread) its way thru a group of sectors if the file is fractured. Any sector can be edited and re-written. By now you can see why this is much more than just another Disk Manager. Available from DATABIOTICS at $19.95. A TOP VALUE and rightfully copy protected. In supporting one of our own you get a really super and useful product.

From UTILITEE SOFTWARE comes another really super program "XB DETECTIVE". XBD is loaded either before or after an XB program and hides in ASSY memory until you need it. "AID" brings up a menu that allows Deletion of groups of LINEs and Listing of Variables on Screen or Printer. XBD also lets you Search for Variables, Reserved Words, and Strings. We all find ourselves perplexed on occasion when writing XB programs and we get an Error Message. XBD allows you to look at the line and then search for the possible culpert. A very nice program and very handy when writing and/or de-bugging XB programs.
PO BOX 7275 DEARBORN, MI 49121

My last offering this month is too good to be true. FUNNELWEB FARM in AUSTRALIA has released a program to spite the high cost of software downunder. FUNLWRITER is FREE. Yes zero cost! Now what do you get for free? You get three files: LOAD, EAU, and FUNLDOCS. (Avail as D/L on TI NORTH). The program auto loads and presents the TI WRITER screen. One basic note. The filename saved in EDIT is defauled in FORMAT mode. Super! but to do that the program must be restarted when going from EDIT to FORMAT. Small price to pay for TIW in XBASIC. The UTILITY option takes you to a second screen menu that will blow your mind. First two options are EDIT and ASSEMBLE. Yep, they have included the TI EDITOR-ASSEMBLER as well.

The next option is a default to a DISK MANAGER of your choice. I set mine up for the

MYARK DISK MANAGER SUPREME. The next 5 options are yours to select. I have programmed mine to include: DISKU, DM1000, MASS TRANSFER, SPELL/CHECK, and DISK + AID. Option 9 allows keyboard entry of any other program you wish to run.

"Now wait a minute you say! These programs are all ASSEMBLER and load with different loaders". Yep, the program has both LOAD/RUN D/F80 loaders, the OPT 5 Program Image loader, and an XB loader. All you have to do is indicate the Load environment when you set up your choices. This is done easily in XBASIC by editing the file "LOAD".

What can I say? FUNLWRITER IS FANTASTIC! It is written so that it can be customized for 1 or more drives. Using a sector editor, I have mine load most of the files from the RAM DISK to save time. TWO major module software programs plus your choice of 6 more programs available on only two screens makes this program unique. You can get it all on one DS/DD disk so things load fast. But PLEASE READ THE DOCS and get all three files!

TRADING TImes:

Jack Topham has a near new Novation SmartCat 300 baud modem for sale for $100 or best offer. He also has a Super Sketch Tablet for $20. See him at the meeting or call him at 577-2054.

John Cammerata has a complete system for sale. This includes the PE box, 32K card, Disk Drive and Controller and console. He is asking $285 for the complete package or $265 without the console. He also has s anumber of black keyboards for $9.50. You can reach John at home PMs at 622-4060 or days at 671-3000 X355.

Ray Neihengen has a large system for sale. He is asking $500 or best offer. You can reach him after 7PM at 312-255-9118.

PRACTICAL PROGRAMMING PRACTICES

```
100 !++++++++++++++++++!
110 !  "Tiny Loader"   !
120 ! By  John Behnke  !
130 !Requires XB  32k! !
140 !++++++++++++++++++!
150 CALL CLEAR :: DIM A$(34)
 :: OPEN #1:"DSK1.",RELATIVE
,INTERNAL,INPUT ,FIXED :: IN
PUT #1:B$,Y,Y,Z
160 DISPLAY AT(1,1):"DSK1 -
 DISKNAME= ";B$:"AVAILABLE="
;Z;" USED=";Y-Z: :"##  FILEN
AME   ##  FILENAME":"-- ----
------  -- ----------"
170 D=6 :: FOR I=1 TO 34 ::
INPUT #1:A$(I):: IF A$(I)=""
THEN 200
180 DISPLAY AT(D,E):USING "#
# ##########":I,A$(I):: IF D
=22 THEN D=6 :: E=16 ELSE D=
D+1
190 NEXT I
200 DISPLAY AT(24,1):"ENTER
 FILE NUMBER TO RUN: 1"
210 ACCEPT AT(24,27)VALIDATE
 (DIGIT)BEEP SIZE(-2):H :: IF
 H>I-1 OR H=0 THEN 210
220 CALL INIT :: CALL PEEK(-
31952,I,J):: CALL PEEK(256*I
+J-65534,I,J):: K=256*I+J-65
534 :: D$="DSK1."A$(H):: CA
LL LOAD(K,LEN(D$))
230 FOR L=1 TO LEN(D$)
240 CALL LOAD(K+L,ASC(SEG$(D
$,L,1)))
250 NEXT L
260 CALL LOAD(K+L,0)
270 RUN "DSK1."
```

Note: Line 270 must be the last line typed in.

- - - - - - - - -

```
100 +++++++++++++++++!
110 !  "Bug  Quest"  !
120 ! By John Behnke !
130 !A text adventure!
140 !Requires X-Basic!
150 !+++++++++++++++++!
160 CALL CLEAR :: DISPLAY AT
(10,10):"Bug  Quest"
170 DISPLAY AT(12,5):"1986
By John Behnke" :: RANDOMIZE
180 DISPLAY AT(20,1):"Find t
he five computer bugs!"
190 DIM P$(32),P(32,6),NO$(1
1),VB$(20)
200 B=0 :: FOR I=1 TO 32
210 READ P$(I):: NEXT I
220 DATA Module Port
230 DATA TMS9900 CPU
240 DATA High Memory
250 DATA Console ROM
260 DATA DSR ROM
270 DATA Low Memory
280 DATA Disk Controller
290 DATA Printer
300 DATA RS232 Interface
310 DATA Telephone MoDem
320 DATA Disk DSR
330 DATA Disk Drive Two
340 DATA Disk Drive Three
350 DATA Disk Drive One
360 DATA VDP Free RAM
370 DATA Screen Display
380 DATA CPU PAD Memory Map
390 DATA TMS9918A VDP
400 DATA TMS9919 Sound Chip
410 DATA Sound Output
420 DATA Speech Synthesizer
430 DATA Speech ROM Three
440 DATA Speech ROM Two
450 DATA Speech ROM One
460 DATA GROM Bank Select
470 DATA Module GROM Three
480 DATA Module GROM Four
490 DATA Module GROM One
500 DATA Module GROM Two
510 DATA Joystick Port
520 DATA Module GROM Five
530 DATA Cassette Recorder
540 FOR I=1 TO 32
550 FOR J=1 TO 6
560 READ P(I,J)
570 NEXT J :: NEXT I
580 DATA 2,0,0,0,0,0
590 DATA 4,3,17,6,5,1
600 DATA 0,0,0,2,0,0
610 DATA 0,0,2,0,0,0
620 DATA 2,0,7,9,0,0
630 DATA 0,2,0,0,0,0
860 DATA 0,30,0,25,0,0
870 DATA 0,0,0,29,0,0
880 DATA 0,32,0,0,25,0
890 DATA 0,0,0,31,0,0
900 FOR I=1 TO 9
910 READ OB$(I):: NEXT I
920 DATA *BUG*,*BUG*,*BUG*,*
BUG*,*BUG*,Energy Light,GROM
 Key,Switch,Small Knob
940 D$(6)="D" :: FOR I=1 TO
5
950 OB(I)=INT(32*RND)+1
960 READ D$(I):: NEXT I
970 OB(6)=5 :: OB(7)=14
980 OB(8)=8 :: OB(9)=21
1000 DATA N,E,S,W,U
1010 CP=1 :: FOR I=1 TO 11 :
: READ NO$(I):: NEXT I
1020 FOR I=1 TO 20 :: READ V
B$(I):: NEXT I
1030 DATA NOR,EAS,SOU,WES,"U
P ",DOW,LIG,KEY,SWI,KNO,BUG
1040 DATA TAK,GET,"GO ",WAL,
RUN,CRA,LOO,EAT,WAI,EXA
1050 DATA "N  ","S  ","E  ",
"W  ","U  ","D  ",PUL,OPE,QU
I,SCO
1060 DISPLAY AT(1,1):"You're
 at: ";P$(CP): : :"You See:"
1090 R=1 :: FOR I=1 TO 9
1100 IF OB(I)=CP THEN DISPLA
Y AT(3+R,18):OB$(I):: R=R+1
1110 NEXT I
1120 DISPLAY AT(20,1):"Direc
tion:" :: A$=""
1140 FOR I=1 TO 6 :: IF P(CP
,I)<>0 THEN A$=A$&D$(I)&" "
1150 NEXT I
1160 DISPLAY AT(21,1):A$
1170 CALL HCHAR(22,1,45,32)
1180 DISPLAY AT(23,1):"Now w
hat?";LC$
1200 ACCEPT AT(23,11):C$
1210 IF LEN(C$)=1 THEN C$=C$
&" "
1220 V$=SEG$(C$,1,3)
1230 A=POS(C$," ",1)
1240 N$=SEG$(C$,A+1,3)
1250 LC$=C$ :: FOR N=1 TO 11
 :: IF N$=NO$(N)THEN 1280
1260 NEXT N
1280 FOR V=1 TO 20 :: IF V$=
VB$(V)THEN 1310
1290 NEXT V
1310 IF V=21 THEN 1350
1320 IF V>10 THEN 1340
1330 ON V GOTO 1370,1370,143
0,1430,1430,1430,1450,1520,1
```



```
640 DATA 5,0,0,0,0,18
650 DATA 0,0,9,0,0,0
660 DATA 8,5,10,0,0,0
670 DATA 9,0,0,0,0,0
680 DATA 18,13,12,14,0,0
690 DATA 11,0,0,0,0,0
700 DATA 0,0,0,11,0,0
710 DATA 0,11,0,0,0,0
720 DATA 0,0,0,18,0,0
730 DATA 0,18,0,0,0,0
740 DATA 2,21,18,19,0,0
750 DATA 17,15,11,16,0,0
760 DATA 20,17,0,0,21,0
770 DATA 0,0,19,0,0,0
780 DATA 24,23,22,17,0,19
790 DATA 21,0,0,0,0,0
800 DATA 0,0,0,21,0,0
810 DATA 0,0,21,0,0,0
820 DATA 28,29,26,27,31,17
830 DATA 25,0,0,0,0,0
840 DATA 0,25,0,0,0,0
850 DATA 0,0,25,0,0,0

1460 IF N=7 THEN R$="You see
 a latch door."
1470 IF N=8 THEN R$="You can
 access GROM with key"
1480 IF N=9 THEN R$="Looks l
ike a power switch."
1490 IF N=10 THEN R$="I can'
t figure this out!"
1500 IF N=11 THEN R$="You fo
und the little critter"
1510 GOTO 1360
1520 R$="Nothing to eat here
!" :: GOTO 1360
1530 R$="Some time passes...
" :: GOTO 1360
1540 FOR I=1 TO 6
1550 IF SEG$(V$,1,1)=SEG$(D$
(I),1,1)THEN 1570
1560 NEXT I :: I=0
1570 IF P(CP,I)=0 THEN 1350
1580 CP=P(CP,I):: R$="Ok."
530,1450
1340 ON V-10 GOTO 1540,1540,
1540,1540,1540,1540,1600,166
0,1680,1690
1350 R$="I can't do that!"
1360 CALL CLEAR :: DISPLAY A
T(24,1):R$ :: GOTO 1060
1370 IF N<>11 THEN 1410
1380 FOR I=1 TO 5
1390 IF OB(I)=CP THEN OB(I)=
0 :: B=B+1 :: R$="Got one!"
:: GOTO 1360
1400 NEXT I :: GOTO 1350
1410 IF N=8 AND CP=14 THEN R
$="Ok." :: OB(7)=0 :: P(17,6
)=25 :: GOTO 1360
1420 GOTO 1350
1430 IF N<7 THEN V$=SEG$(N$,
1,1):: GOTO 1540
1440 GOTO 1350
1450 IF N<7 THEN R$="You see
 nothing special."

1590 GOTO 1360
1600 IF N<>10 OR CP<>21 THEN
 1350
1610 DISPLAY AT(24,1):"A voi
ce booms out:"
1620 CALL W :: DISPLAY AT(24
,1):"Here are where the bugs
are:"
1630 CALL W :: FOR I=1 TO 5
:: DISPLAY AT(24,1):P$(OB(I)
)
1640 CALL W :: NEXT I
1650 GOTO 1060
1660 IF N=7 AND CP=5 THEN R$
="You found a Key" :: P(17,6
)=25 :: GOTO 1360
1670 GOTO 1060
1680 END
1690 R$="You've found "&STR$
(B)&" bugs." :: GOTO 1360
1700 SUB W :: FOR I=1 TO 400
 :: NEXT I :: SUBEND
```

- - - - - - - - - -

BASICWRITER

```
100 REM +++++++++++++++++++
110 REM ! "Basic Writer" !
120 REM ! By John Behnke !
130 REM ! March 10, 1986 !
140 REM +++++++++++++++++++
150 CALL CLEAR
160 CALL SCREEN(2)
170 CALL CHAR(128,"000000FFFF")
180 FOR L=1 TO 14
190 CALL COLOR(L,2,16)
```

```
200 NEXT L
210 GOSUB 1360
220 PRINT "        BASIC WRITER": : :"        By John Behnke": : : : : : : :
230 PRINT " press any key to continue.": :
240 GOSUB 1220
250 CALL CLEAR
260 GOSUB 1360
280 PRINT "        Basic Writer"
300 PRINT "1) Create new file"
310 PRINT "2) Save file to cassette":
320 PRINT "3) Read file from cassette"
330 PRINT "4) Print file to screen"
340 PRINT "5) Add to file"
350 PRINT "6) Find text"
360 PRINT "7) Edit a line"
370 PRINT "8) Save file to device"
380 PRINT "9) Read file from device"
390 PRINT "0) Memory check"
400 PRINT : : : :"Choice (0-9)?": :
410 GOSUB 1220
420 IF (K<48)+(K>57)THEN 410
430 CALL CLEAR
440 GOSUB 1360
450 ON K-47 GOTO 1470,460,710,790,590,490,860,1020,1250,1380
460 DIM Z$(500)
470 I=0
480 N=0
490 PRINT "   Enter ""STOP"" to abort.": : : : :
500 I=I+1
510 N=N+1
520 PRINT SEG$("   ",1,3-LEN(STR$(I)));I;
530 INPUT "":Z$(I)
540 IF LEN(Z$(I))<81 THEN 570
550 PRINT "Line too long. Re-enter."
560 GOTO 530
570 IF (Z$(I)="STOP")+(Z$(I)="stop")THEN 250
580 GOTO 500
590 FOR L=1 TO N-1
600 CALL KEY(0,K,S)
610 IF S=0 THEN 650
620 FOR @=1 TO 150
630 NEXT @
640 GOSUB 1220
650 PRINT L;Z$(L)
660 NEXT L
670 PRINT : : :"PRINT AGAIN(Y/N)?"
680 GOSUB 1220
690 IF K=89 THEN 590
700 GOTO 250
710 I=0
720 OPEN #2:"CS1",OUTPUT,INTERNAL,SEQUENTIAL,FIXED 128
730 PRINT #2:N
740 FOR L=1 TO N-1
750 PRINT #2:Z$(L)
760 NEXT L
770 CLOSE #2
780 GOTO 250
790 OPEN #2:"CS1",INPUT ,INTERNAL,SEQUENTIAL,FIXED 128
```



```
800 INPUT #2:N
810 FOR L=1 TO N-1
820 INPUT #2:Z$(L)
830 NEXT L
840 CLOSE #2
850 GOTO 250
860 PRINT " Enter the text string that"
870 PRINT " you are searching for. The"
880 PRINT " line and number will be"
890 PRINT " shown if a match is found.": : : : : : : :
900 INPUT "":FILE$
910 CALL CLEAR
920 FOR L=1 TO N
930 FL=POS(Z$(L),FILE$,1)
940 IF FL<>0 THEN 1000
950 NEXT L
960 PRINT "Another search (Y/N)?"
970 GOSUB 1220
980 IF (K=89)+(K=121)THEN 860
990 GOTO 250
1000 PRINT L;Z$(L):
1010 GOTO 950
1020 INPUT "Line to edit?":LN
1030 PRINT : :Z$(LN): : : : : : :
1040 PRINT "Re-type the new line now.": : :
1050 INPUT "":Z$(LN)
1060 CALL CLEAR
1070 PRINT "Edit another line (Y/N)?"
1080 GOSUB 1220
1090 IF (K=89)+(K=121)THEN 1020
1100 GOTO 250
1110 CALL CLEAR
1120 FOR L=1 TO N-1
1130 CALL KEY(0,K,S)
1140 IF S=0 THEN 1160
1150 GOSUB 1220
1160 PRINT Z$(L)
1170 NEXT L
1180 PRINT : : :"Print again (Y/N)"
1190 GOSUB 1220
1200 IF K=89 THEN 1110
1210 IF K=121 THEN 1110 ELSE 250
1220 CALL KEY(0,K,S)
1230 IF S=0 THEN 1220
1240 RETURN
1250 PRINT "Save to device (Y/N)?"
1260 GOSUB 1220
1270 IF (K<>121)*(K<>89)THEN 250
1280 INPUT "Output Name? ":@$
1290 IF (LEN(@$)>14)+(LEN(@$)<1)THEN 32767
1300 OPEN #10:@$
1310 FOR L=1 TO N-1
1320 PRINT #10:Z$(L)
1330 NEXT L
1340 CLOSE #10
1350 GOTO 250
1360 CALL VCHAR(1,31,31,96)
1370 RETURN
```

```
1380 INPUT "Filename to read? ":A$
1390 OPEN #1:A$
1400 N=1
1410 IF EOF(1)THEN 1450
1420 INPUT #1:Z$(N)
1430 N=N+1
1440 GOTO 1410
1450 CLOSE #1
1460 GOTO 250
1470 _=9600
1480 FOR L=1 TO N-1
1490 _=_-(LEN(Z$(L))*2)
1500 NEXT L
1510 PRINT _;"Bytes left": :
1520 FOR @=1 TO 500
1530 NEXT @
1540 GOTO 250
```

FROM THE OTHER ORPHANAGES

The TI99 is not dead! The CUG FAIRE clones are everywhere. LOS ANGELES UG is holding a 99'FEST on 1&2 March in the Shrine Exposition Hall. Top vender support, and many social events as well. RIVERSIDE, Calif. was the site of the TI99 COMPUTER FAIR held on 18&19 Jan by the COUNCIL of COMPUTER USER's GROUPS. The TI99 is alive and well and getting bigger every day

Michael Amundsen of the NEW HORIZONS UG has written a program to Edit Merged Files called MFE. $5 to him at PO BOX 53 BOWLING GREEN, OHIO 43402 will get you a screen editor that blows the TI XB Editor away. Give it a shot.

FLASH- The NORTHWEST METROPOLITAN REGION USERS GROUP CONFERENCE will hold an all day FAIRE on 12 April on Long Island. And a TEXAS INSTRUMENTS COMPUTER OWNERS FUN FESTIVAL will be held in NEW JERSEY on 15 March. Dead? hardly.

The DAYTONA 99ers held a NIGHT AT THE CUG FAIRE on 21 Jan where the CUG Video tape was shown to a large group. Nice we could be there with them by video.

From NOVA SCOTIA comes this TIP on printing 132 char of condensed print in TI WRITER. Create your file as usual but set formatter commands as follows: .LM 4;.RM 127;.IN+5;.FI;.AD. Adjust and Fill are required but the margin setting is up to you. Save using P(rint) F(ile) to DSKn.filename. Set your printer for condensed print and Print using the Formatter mode.

Wow! The VANCOUVER, WA area UG picked up on one of my recent articles and shared it with their members. Go to it NOVA.

ENTER THE PROGRAMMING CONTEST

TECH CORNER

HARD TIMES: Al Stump

Let me introduce myself, my name is Al Stump,and I will attempt to provide some hardware perspective to the CHICAGO TIMES.In view of the current economic status of most people,especially those with families and the desire to expand their systems, I feel that the title HARD TIMES for my feeble literary efforts is most appropiate.Also since this is a crash course in TI WRITER,the title is appropiate from my perspective also.The only area I have found to be easy is in answering technical questions,in my area of expertise.So I will now attempt to define my charter.

I will write a column each month, discussing questions that have been put to me, if they are general enough to be of interest to most members.I will also review new products that I use so that others are able to decide if they are also interested in the product.I would also like to receive input from others on new products they have tried so that my reviews are not limited to my taste and budget.This will require assistance from each of you as you aquire new products which you feel others would be interested in.One other facet of hardware will be presented, if I see an article in other magazines that I feel will address a need that we have, I will mention it in this column so that others may also be aware.If it is a construction project and someone attempts it, I will try to provide all the technical assistance possible to make it a successful venture. I'm hoping to find a project that would lend itself to a group project that would further enhance the overall technical expertise of our group.To that end I will require input from readers of the column as to what they are interested in.If there is enough interest, we will approach it as a group project.There is one disclaimer I feel should be mentioned here, my background is strictly hardware design ,prototype construction, and repair of large systems, so if I seem dumb in asking some software questions bear with me.I bought my system to learn software, so long term we will have a mutually beneficial arangement. Enough of my goals for this column. Let's talk technical for a while.

A lot of questions arose at the January meeting on the subject of buffers. I would like to spend a little time on that subject. Keep in mind that there are many devices called Buffers.We have printer Buffers that accept data to be printed from the system and then feed the printer at it's rate. This allows the system to be used for something else while the document that it queued is being printed.It buffers the much faster system from the mechanical speed restrictions of the printer.This saves us a lot of time that would otherwise have been spent waiting for the printer to finish printing.This action of isolating one device from the effect of another device is what gives it the name of Buffer, because of the buffering action it performs.

The same holds true of buffers on the address, control and data lines that are used throughout our systems.These lines carry their signals to all internal devices that need the information on them.The same information is required by our external peripherals, such as the Expansion system,or stand alone boxes. Without the I.C.'s that separate the internal lines from the external lines the systems performance would change if the expansion box or other peripheral was attached.The added impedance of the box and/or connecting cable would cause the rise and fall times of our signals to deteriorate.How much they deteriorated would depend on the impedance added. But one of the primary concerns of any hardware designer is to make our design very tolerant of changes, without any degradation of performance.Therefore Buffers are added to insure that our control and other signals have the fastest rise and fall times possible.Control signals such as read or write have such a key role in our systems performance, that degradation is undesireable.Lines such as address and data are not as critical , because the read and write lines latch the data into memory or registers or peripherals.So the read and write lines must essentially be right on, if not wierd things can happen.Picture this in your mind, data from memory is on the data lines and it is being strobed into a register ,but the fall time of the strobe pulse is too long .Result is that the data is changing levels

as the strobe pulse falls.The total meaning of the data could change if a 0 is seen as a 1 or 1 is seen as a 0. Therefore buffers are required to protect the validity of our data, they are vital on any estension of our buss, the longer the extension the more vital they are.

If some of our readers are interested in buffers for practical application, it's beyond the scope of this column to go into all of the criteria that dictate the choice needed for any given application.I have seen and used different devices as buffers , but believe me they could not be interchanged.Each one was selected for use because of the specific needs of each application.If you have a need of further information on this or other subjects, see me at the next meeting, I am usually more than willing to help,my biggest problem is time allocation (I'm not alone on that).

I don't know how many of our readers also read RADIO-ELECTRONICS but in the 1986 ANNUAL there is an interesting article on constructing a STREAMING tape interface. It accepts data serially from the RS-232 interface and writes it out to a cassette deck at 4800 baud.It will attach to any RS-232 port.The author claims that it is virtually hard error free.Sounds like a big improvement over "OLD CS1".Personally I don't know of any bigger time wasters than waiting for my printer or "OLD CS1 " to finish.This device since it works off the RS-232 port on any system gives me the feeling that there is a lot of potential.I'm thinking in terms of Basics similiar to TI that could be listed to tape as a file and loaded with TI WRITER and using its features we could manipulate the file to modify commands such that the program could work on our TI's without wearing our fingers to the bone or our minds to a frazzle.Anyone have input on the feasability of that process? See me if you do.The magazine is on the newsstands now if you are interested.

Next month we will kick around the subject of fault isolation.(Read that troubleshooting). I'll talk about some of the best troubleshooting equipment around.See you at the meeting.

ASSEMBLY WORKSHOP

```
*QUITSAFE ROUTINE BY RICH KLEIN-MARCH 1986
*USE EDITOR ASSEMBLER EDITOR TO COPY THIS SOURCE CODE
*LEAVE OUT THESE COMMENTS IF DESIRED. SAVE WITH EDITOR OPTION 3
*ASSEMBLE USING THE "R" ASSEMBLER OPTION. USE BASIC CALL LOAD
*STATEMENT TO LOAD INTO MEMORY. HIDES BEHIND BASIC ENVIRONMENT
*IF "QUIT" IS PRESSED, PROMPT IS DISPLAYED AND PRESSING "Y" WILL
*RETURN USER TO MAIN TITLE SCREEN. ANY OTHER KEY RETURNS USER BACK TO
*BASIC WHERE LEFT OFF. WORKS ALWAYS IN COMMAND MODE AND ONLY WHEN KEY
*BOARD IS SCANNED IN PROGRAM. WILL NEVER QUIT ACCIDENTALLY.
*
       REF  VMBW,VMBR,KSCAN
       DEF  QUIT
WORK   BSS  32                          *WORKSPACE REGS
READLN BSS  32                          *LAST SCREEN LINE HERE
KEY    EQU  >8375                       *ADDRESSES FOR KEY
STATUS EQU  >837C                       *BOARD SCANNING
KEYNUM EQU  >8374                       *
MESG1  BYTE >80,>80,>80,>82,>AE,>B3,>B3 *MESSAGE PROMPT
       BYTE >80,>B9,>80,>B4,>AF,>80,>A3 *ADJUSTED WITH BASIC
       BYTE >AF,>AE,>A6,>A9,>B2,>AD,>80 *BIAS
       BYTE >80,>80,>80,>80,>80,>80,>80 *
       BYTE >80,>80,>80,>80             *
       EVEN
* ENTRY POINT
QUIT   CLR  R1          *
```



```
       MOVB @KEY,R1      *CHECK TO SEE IF QUIT KEY WAS PRESSED
       CI   R1,>0500     *
       JNE  RETN         *IF NOT, GO BACK TO BASIC
       LWPI WORK         *
       LI   R0,>2DF
       LI   R1,READLN
       LI   R2,32
       BLWP @VMBR        *SAVE BOTTOM ROW OF SCREEN
       LI   R1,MESG1
       BLWP @VMBW        *DISPLAY CONFIRMATION MESSAGE
       CLR  R3
DELAY  INC  R3
       CI   R3,1000      *DELAY SO QUIT DOESN'T INTERFERE
       JNE  DELAY        *WITH REST OF ROUTINE
       CLR  R3
       CLR  R5
       MOVB R3,@KEYNUM
       MOVB R3,@KEY
SCAN1  MOVB R3,@STATUS
       BLWP @KSCAN       *SCAN KEYBOARD TO SEE WHAT KEY IS PRESSED
       MOVB @STATUS,R5
       CI   R5,>2000     *CHECK KEYBOARD STATUS
       JNE  SCAN1
       MOVB @KEY,R5
       CI   R5,>5900     *CHECK IF KEY IS "Y" KEY
       JNE  REPL         *NO, GOTO EXIT ROUTINE
       BLWP @>0000       *YES, THEN QUIT
REPL   LI   R1,READLN
       BLWP @VMBW        *REPLACE LINE SWIPED FROM BOTTOM OF SCREEN
       MOVB R3,@STATUS   *CLEAR STATUS
RETN   LWPI >83E0        *RESTORE GPL REGISTERS
       B    *R11         *RETURN TO BASIC
       AORG >83C2
       DATA >1000        *DISABLE QUIT ROUTINE IN INTERRUPT
       DATA QUIT         *PLACE ADDRESS OF THIS ROUTINE IN USER INTERRUVECT
       END
```

RAM BUGS?: Texincia Lubbock

My Dearest Readers;

Due to the extreme pressure that both *Carole* and I have received from a few very vocal readers, I regret to inform you that I must terminate my colorful career. I realize how much of a let-down this is to all my very loyal followers, but due to the narrow mindedness of a few inconsiderate members of the *TEMPERANCE SIG* , you will no longer find my words of wisdom gracing the pages of this publication. Sympathy may be expressed in the manner of a donation to you favorite charity.

My best to all of you now, and in the future.

Texincia Lubbock

APRIL FOOL!!!!!

You didn't really think I would let a few arrogant turkeys railroad me out of the Group and away from what I enjoy doing so much every month, did you? Of course not! After all, who would there be to bring you all the insight and new dirt? *Rona* certainly wouldn't leave Hollywood for the User's Group, would she?

Speaking of dirt, I've JUST LEARNED that the new EXTENDED BASIC IV is now availa ble. EX-BASIC IV features IMPROVED DRAWING CAPABILITIES, WINDOWING, and will take advantage of the 128K card allowing larger programs to be developed. Perhaps *Roy Hunter* will be able to tell you more.

My spies on both the East and West Coasts inform me that Chicago still has the B EST FAIRE. Looks like both the turnout and the response we received was and will continued to be better that anyone else. Others may borrow a concept, but it's the MEMBERSHIP that REALLY MAKES IT WORK!

Carole informs me that *BUZZ KRANTZ* is now designing the covers for CHICAGO TImes . The effort put forward in you work is evident, *Buzz* but I didn't think leather roses were supposed to wilt.

MICROPENDIUM is furthering its support of our group by making individual copies of that publication available on a non-subscription basis beginning with our May meeting. Check with *Grant* to reserve your copy as there will only be 50 available the first month.

I was glad to hear from so many of my friends at last months meeting how much they enjoyed having participated in the new BEGINNERS SIG, run by *DON JONES*. It's too easy to forget that at one time or another we all knew the same thing about the machine, ABSOLUTELY NOTHING! Keep up the good work, *Don*.

Speaking of SIGS, *LEN ROVNER'S* BUSINESS SIG has been doing a lot with MULTI-PLAN lately. If you're interested in business applications for the TI, check with *Len* to see what else he has in store.

What's with everyone jumping on the *COMPUSERVE BANDWAGON* lately? First GENERAL ELECTRIC brought out *GENIE*, an information service that should probably wish itself out of existence for all it *DOESN'T* OFFER. I've checked it out, and it's no t worth the cost, so don't get caught up in the GENIE'S SPELL. Another SOURCE nforms me they had a similar experience with *VIENTRON'S VT100 EMULATOR SERVICE*. Don't let your fingers go dialing off to information services that obviously do n't have any intention of supporting our TI.

Speaking of dialing, it's going to cost you more if you want to communicate with *STU OLSEN'S* new BBS. *STU* is the founder of TI-NORTH, and will soon be leaving the area, bound for PHOENIX. I'm certain this fine author of MASS TRANSFER will stay in touch with us and let us know what the phone number of his TI-(FAR)- SOUTHWEST BBS will be.

Just so you know, I tried taking the IRS Man out to dinner, but after it was all over for the evening, he assured me that my neither would my refund be any larger nor my chances for an audit any smaller. See you at the meeting.

A FIFTH OF FORTH: John Hedstrom

Here's a walk-through of a short TI FORTH program for the curious, beginners, and "JP Graphic" owners. The purpose is to demystify an often cryptic-looking language and encourage BASIC programmers to give it a try. The program is a translation from BASIC (see Chicago TImes, Jan. 31 '86, p.19).

My own interest in FORTH was started by the great "JP Graphic" paint program written in FORTH by Jean-Pierre Morin of the Ottawa user's group. You can enter and save the following program if you have the "JP Graphic" disk. A recent listing of the library's Top 20 had "JP" at #3 so a lot of you out there have it.

FORTH was invented by Charles Moore in 1969 (who considered it a fourth-generation language, but who had a 5-space naming limit on his computer). The essence of FORTH is the user-definition of new words (instructions) in terms of old words in pyramid fashion until finally one word will call the entire program.

First I'll describe the program flow in detail and then the mechanics of entering and saving it.

I. Program Flow

Parentheses indicate a comment (like REM in BASIC):

```
( Lottery Numbers by John Hedstrom)
```

Two variables are created to keep track of the start and end of an array:

```
0 VARIABLE Z1   0 VARIABLE Z2
```

The colon and semicolon surround new word (instruction) definitions which are then compiled into a dictionary (set of instructions):

```
: ARRAYZ   HERE DUP 44 ALLOT 44 ERASE   HERE DUP Z2 ! 44 - Z1 !
   RANDOMIZE ;
: TITLE1   CLS CR 9 SPACES ." Illinois State Lottery" ;
: TITLE2   CR 8 SPACES ." Six numbers from 1 to 44" CR ;
: SETUP    ARRAYZ TITLE1 TITLE2 ;
```

A 44-element ARRAYZ is set up by noting the next free memory location in the dictionary (HERE) and DUPlicating this address to do two things: (1) reserve (ALLOT) 44 locations, and (2) place 44 zeros (ERASE) at those addresses. HERE now points to the end of the array and so is stored (!) in variable Z2. The start of the array is calculated by subtracting 44 from HERE. I've defined TITLE1 to clear the screen (CLS), do a carriage return (CR), tab in from the left 9 spaces, and print a string (."). TITLE2 is similar. SETUP demonstrates the pyramiding effect by including the three words just defined and it shows why there's no need for line numbers as in BASIC. Execution simply goes from left to right within each word definition.

```
: NONDUP   BEGIN 44 RND Z1 @ + DUP C@ WHILE DROP REPEAT ;
: PICK6    7 1 DO 1 NONDUP C! LOOP ;
```

Starting to look a bit wierd? No problem! I've underlined the key words. What we've got here is a "BEGIN... WHILE... REPEAT" conditional loop (similar to a "100 IF... THEN 100 ELSE 110" in BASIC) and a "DO... LOOP" instruction (just like the "FOR... NEXT" loop in BASIC). Memory addresses Z1 to Z2 correspond to an array 1 to 44 with flags of 0 or 1 to prevent duplication. NONDUPlication tells the computer to BEGIN by picking a random number between 0 and 43, adding the contents (@) of Z1, making a spare copy of the answer for future use (DUP), and checking the contents (C@) of the answer. If there's a zero at that array address then the computer escapes the loop having picked a valid random number. If there's a one then it means that number has been chosen already and so execution cycles back to the BEGINning to pick another random number (having DROPped that spare copy on the way). PICK6 does a loop from 1 to 6 to pick the six random, unique numbers. A one is stored before NONDUP is executed. When NONDUP is successful, this one is sent to flag that spare copy of the array address by the C! instruction.

```
: PRINT6   PICK6 Z2 @ Z1 @ DO I C@ IF I Z1 @ 1- ABS + . 0 I C!
  ENDIF LOOP ;
: 20SETS   21 1 DO CR 10 SPACES I . 61 EMIT SPACE PRINT6 LOOP ;
```

To print our six random numbers in order, PRINT6 whips through the array from Z1 to Z2 reading the flags (C@) of the loop counter (I). I've underlined the conditional execution within the loop: "IF... ENDIF". IF an array address is flagged with a one, the computer adds the absolute value of Z1-1 to produce numbers in the range of 1 to 44. The number is printed to the screen (.). A zero is put at that array address (!) by C! so the array will be all zeros for the next PICK6. 20SETS is a loop from 1 to 20 that prints the loop counter (I .), an equals sign (ASCII code #61 is EMITted to the screen) and the PRINT6 routine.

All that's needed now is a word to call the two parts of the program:

```
: LOTTERY   SETUP 20SETS ;
```

II. Entering, Saving, Loading

First we need to get the resident FORTH vocabulary (which we then use to define our own words) into the computer. If you have the TI FORTH disk, load it and then load -EDITOR from the menu. If you have "JP Graphic", load it, and then do a function-4. In both cases now enter: FLUSH 4 BLOCK DROP UPDATE 5 BLOCK DROP UPDATE. This loads error messages into two buffers. Remove the TI FORTH or "JP Graphic" disk and put in an initialized blank disk. Think of this blank disk as divided into 90 screens from 0 to 89 where we can store our programs. Enter FLUSH again (which clears the buffers to disk) to put those error messages into screens 4 and 5 on the blank disk. Let's choose screen #3 for our program. 3 CLEAR will fill screen #3 with blanks. 3 EDIT will access it for editing. Those with the TI FORTH manual will find editing commands on p.5 of chapter 3. For those trying this with "JP Graphic" (without instructions): the arrow keys will move the cursor (even up and down), DELETE and INSERT are active, BEGIN (function-5) will move the cursor horizontally in big jumps, ENTER brings you to the next line. Those with "JP Graphic" shouldn't type in the two underlined instructions (CLS is booby-trapped, and the extra CR will obscure title 1):


```
 0 ( Lottery Numbers by John Hedstrom)
 1
 2 0 VARIABLE Z1 0 VARIABLE Z2
 3 : ARRAYZ   HERE DUP 44 ALLOT 44 ERASE HERE DUP Z2 ! 44 - Z1 !
 4    RANDOMIZE ;
 5 : TITLE1   CLS CR 9 SPACES ." Illinois State Lottery" ;
 6 : TITLE2   CR 8 SPACES ." Six numbers from 1 to 44" CR ;
 7 : SETUP   ARRAYZ TITLE1 TITLE2 ;
 8
 9 : NONDUP   BEGIN 44 RND Z1 @ + DUP C@ WHILE DROP REPEAT ;
10 : PICK6   7 1 DO 1 NONDUP C! LOOP ;
11 : PRINT6   PICK6 Z2 @ Z1 @ DO I C@ IF I Z1 @ 1- ABS + . 0 I C!
12    ENDIF LOOP ;
13 : 20SETS   21 1 DO CR 10 SPACES I . 61 EMIT SPACE PRINT6 LOOP ;
14
15 : LOTTERY   SETUP 20SETS ;
```

BACK (function-9) exits the editor. 3 LOAD will compile the program. LOTTERY will run it as many times as you want. FLUSH will save it to disk. To load again from a cold start, load the FORTH (either TI or "JP"), put in your program disk, and enter: FLUSH 3 BLOCK BOOT LOTTERY (3 BLOCK loads screen #3 from disk to buffer, BOOT is the same as 3 LOAD and it only works with screen #3). MON exits FORTH.

This program runs in 5 seconds in FORTH. The BASIC version took 37 seconds. There may be more efficient code. For example, Charles Moore suggests using CREATE for arrays in the book Thinking FORTH, p.196. There are 463 different words in the glossary. This program used 35 of them. I haven't even mentioned the infamous FORTH stack. That's the simple storage system for numbers and is the reason why numbers precede commands (for example, 5 8 + . will print a 13). I hope that "JP Graphic" owners will find this language intriguing enough to get the FORTH disk and manual from the library (only $20). I found four helpful books at the local library: Leo Brodie, Starting FORTH, 1981 & Thinking FORTH, 1984 (both Prentice-Hall), C. Kevin McCabe, FORTH Fundamentals, 2 vol.s, 1983 (dilithium Press).

Note: I have the old "JP Graphic". I hope the new version works the same way! In the version I have, the stack contents are printed at the top of the screen: very helpful to the beginner who wants to experiment.* I should also mention that 3 LIST will list screen #3 in its entirety (not split into left or right as in EDIT). But it appears to be booby-trapped in "JP" (the program may freeze up later).

* Try: 2 4 6 8 . . . . for an idea of how the stack works. This will print "8 6 4 2". This "first-in-last-out" storage means the programmer must keep track of which numbers are where on the stack. Each command has its own stack notation which simply shows what effect it has on the stack. For example, the notation for + is "n1 n2 --- n3" which means + requires two numbers up front and it leaves the sum (n3) on the stack afterwards. As in BASIC you can experiment with these instructions in immediate mode without having to write a program. Use . ("dot") to print numbers, ." ("dot-quote") to print strings: 10 5 - . will return a 5, ." hello" will return a hello.

STREET PRICE GUIDE

Here's a current street price guide for those of you who are thinking of upgrading your systems in the near future. This guide will give a low price based on the lowest price seen for used items and a high price for new items.

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REMarks: Carole Goldstein

First off this month is a special thank you to Marty Hirsh without whom this issue may not have been a reality. Within 3 hours of the breakdown of my Gemini 10X, I had a loaner printer delivered to my house. We had left a message on the Board and this had to be the quickest response ever. It just goes to show you the power of the Users Group, the BBS and the commeradery of the group.

We bid a reluctant farewell to Stu Olson this month. Stu, the author of Mass Transfer is leaving our group as he is moving to Phoenix. Best of luck in your new location. We will miss you.

I would also like to thank all those that helped out with the new SIG for beginners and would especially like to thank Don Jones who thanks everyone else in his article within these pages. It is not to be forgotten that Don organized the whole thing and without him it would not have gone as well. Also special thanks to Mark Harms from the Kankekee UG who pitched in by lending us a hand and a system.

Thanks to all who contributed to help make this one of the great issues. Dave's column came in just under the wire this month and is must reading. He has included a report on the LA Fair. The N.J. Fair was reported on via a phone call to the BBS from Davenport Iowa. Three short programs appear this month from John Behnke. One is a compact loader program for your XBasic programs, one is an adventure game that takes place inside your system and the third is a word processor in Basic for those of you that are still cassette based. Thanks everyone, and remember, its not too early to start thinking about those submissions for the Super Summer Issue. This is your newsletter and it only becomes what you make of it.